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# **Emerging Issues in USMC Recruiting: Assessing the Success of Cat. IV Recruits in the Marine Corps**

Dana L. Brookshire • Anita U. Hattiangadi  
Catherine M. Hiatt

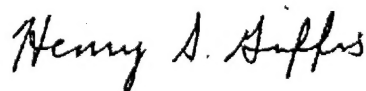
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Henry S. Griffis, Director  
Workforce, Education and Training Team  
Resource Analysis Division

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14. ABSTRACT Given increasingly difficult recruiting conditions, we examine the feasibility of raising the Marine Corps' self-imposed cap of 1 percent on Category IV accessions. We limit our analysis to top Category IVAs (Cat. IVAs)—those scoring between 26 and 31 on the AFQT who are high school degree graduates. We use the National Longitudinal Study of Youth 1997 to analyze the national population of Cat. IVAs. We find that the population of top Cat. IVAs is large enough to support an increase in the accession cap. Then, using CNA accession cohort data, we compare the attrition rates of top Cat. IVAs to bottom Cat. IIIB (AFQT between 31 and 41 and high school degree graduates) and Adult Education/ 1 Semester college recruits. Top Cat. IVAs have attrition rates, both from bootcamp and from the first term of service, similar to those of bottom Cat. IIIBs. We also find that Top Cat. IVA Marines have lower attrition than Adult Education/ 1 Semester College Marines.					
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# **Emerging Issues in USMC Recruiting:**

## Assessing the Success of Cat. IV Recruits in the Marine Corps

31 August 2006

Dana Brookshire  
Anita Hattiangadi  
Catherine Hiatt

This annotated briefing summarizes our assessment of the success of Category IV (Cat. IV) recruits in the Marine Corps. This completes task 1 of the Emerging Issues in USMC Recruiting study sponsored by OSD-Accession Policy.

## Cat. IV Research Questions



- Is there a sufficient number of youth in the Cat. IV mental group who qualify for Marine Corps enlistment programs?
- How do Cat. IVs in the Marine Corps compare with those in the general youth population?
- How successful are Cat. IV Marines?
- Are there any subgroups of Cat. IVs that are relatively more successful?

Given the increasingly difficult recruiting environment, CNA was tasked with determining whether the Marine Corps could raise its self-imposed cap on Cat. IV accessions while still making successful Marines. To this end, we sought to answer four research questions (listed above).

To consider the possibility of accessing more Cat. IVs, it is first necessary to determine if there are a sufficient number of Cat. IVs in the population to support this action. Thus, the first question analyzes the market of Cat. IVs qualified to enlist in the Marine Corps.

We also compare Cat. IVs in the general youth population to Cat. IVs in the Marine Corps to determine if the Marine Corps is accessing only the highest quality Cat. IVs. In other words, is the Marine Corps already skimming the “cream of the crop”?

Finally, since the Marine Corps has high quality standards, it is necessary to determine whether increasing Cat. IV accessions is desirable. That is, do Cat. IVs make successful Marines?

Finally, are there subgroups of Cat. IVs that are more successful than others (i.e., what are the characteristics of successful Cat. IVs)?

Before answering these questions, we present some background information.

## Tier and Mental Group Definitions



Number of accessions is unconstrained

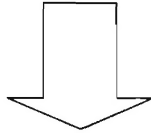
Tier	Who Qualifies?	Mental Group	AFQT Scores
Tier I	High School Diploma Graduates (HSDGs)	Cat. I	AFQT ≥ 93
	Adult Education Diploma, Completed 1 Semester College	Cat. II	65 ≤ AFQT < 93
Tier II	GEDs, Home School, National Guard Youth Challenge Program Graduates, Certificate of Attendance, etc.	Cat. IIIA	50 ≤ AFQT < 65
		Cat. IIIB	31 ≤ AFQT < 50
		Cat. IVA	21 ≤ AFQT < 31
Tier III	Non-HSDGs	Cat. IVB & C	10 ≤ AFQT < 21

This slide displays the tier and mental group definitions. The shading indicates those groups from which the Services can enlist an unlimited number of recruits.

## Further Dividing the Cat. IIIB and Cat. IVA Mental Groups



Cat. IIIB	$31 \leq \text{AFQT} < 50$
Cat. IVA	$21 \leq \text{AFQT} < 31$



Top Cat. IIIB	$41 \leq \text{AFQT} < 50$
Bottom Cat. IIIB	$31 \leq \text{AFQT} < 41$
Top Cat. IVA	$25 \leq \text{AFQT} < 31$
Bottom Cat. IVA	$21 \leq \text{AFQT} < 25$

We further divide Cat. IIIBs and Cat. IVAs into two groups, creating a “top” and “bottom” subgroup for each category. The underlying logic is that Cat. IVAs are probably most similar to Cat. IIIBs. More specifically, the top portion of Cat. IVAs—those scoring between 25 and 31 on the AFQT—are likely to be more similar to the bottom half of the Cat. IIIBs—those scoring between 31 and 41—than to those in Cat. I-III A.

Now we review the laws and regulations (set by Congress, DoD, and the individual Services) that govern Cat. IV accessions.



## Legislative Background



- Congress: Title 10, U.S. Code, Section 520 mandates that less than 20% of accessions be Cat. IV
  - Also stipulates that non-HSDGs score at or above 31 on the AFQT (i.e., are at least Cat. IIIBs)
- Department of Defense: DoDI 1145.01 (20 September 2005) mandates that
  - No more than 4% of an accession cohort can be Cat. IVs
  - 60% must be Cat. IIIA or better
  - 90% of all accessions must be Tier I

Section 520 of Title 10 of the U.S. Code stipulates that no more than 20 percent of an accession cohort can be Cat. IV and that non-HSDG accessions must be at least Cat. IIIB. That is, Cat. IVs must be HSDGs.

The DoD raises the accession cohort quality standards by limiting Cat. IV accessions to 4 percent and mandating that 60 percent be Cat. I-III A and 90 percent be Tier I.

With the exception of the Army, the Services all further raise the quality bar.

# Service Regulations



- **Marine Corps**
  - Cat. IV enlistments must not exceed 1% of total active duty accessions requirement
  - 95% of all enlisted accessions must be Tier I
- **Navy**
  - Cat. IV enlistments are not allowed
  - 95% of all enlisted accessions must be Tier I
- **Air Force**
  - Cat. IV enlistments must not exceed 1% of total NPS enlistments
  - 99% of all NPS enlisted accessions must be Tier I
- **Army**
  - FY06 regulations allow up to 4% Cat. IV (16-31) (had been up to 2% for past 5 years). Those scoring below 16 are not currently eligible to enlist.
  - 90% of all enlisted accessions must be Tier I

The Marine Corps limits its Cat. IV accessions to no more than 1 percent. This limit is set in the Accession Strategy that is devised every 5 years. The Marine Corps further ensures that it has a high-quality force by restricting Tier II–III accessions to 5 percent. In fact, although the regulation is that 95 percent of accessions be Tier I, Marine Corps Recruiting Command's (MCRC's) internal goal is actually 97 percent Tier I.

The Navy similarly limits Tier II and Tier III accessions to 5 percent, but the Navy does not access any recruits with AFQT scores below 31.

The Air Force, like the Marine Corps, limits Cat. IVs to 1 percent, but requires 99 percent Tier I recruits.

The Army, the largest branch, recently increased its Cat. IV cap to 4 percent, the DoD limit. The Army also abides by the DoD Tier I standard of 90 percent.<sup>1</sup>

Note that these standards can (and do) adjust based on the current recruiting environment. For example, when the Navy was having recruiting problems in the late 1990s, it lowered its Tier I accession goal to 90 percent.

<sup>1</sup>Recently, however, the Army has been missing this standard.

## Percentage Cat. IV, Cat. I-III A, and HSDG of Annual NPS Enlisted Accessions



Cat IV Percentage of Annual NPS Accessions										
	1995	1996	1997	1998	1999	2000*	2001**	2002**	2003**	2004**
DoD	0.6	0.6	0.9	0.9	0.9	0.9	0.8	0.6	0.2	0.3
Army	1.7	1.3	2	2	2	1.9	1.8	1.4	0.3	0.5
Navy	0	0	0	0	0	0	0	0	0	0
Marine Corps	0	0.3	0.4	0.6	1	1	0.7	0.5	0.4	0.5
Air Force	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0	0

Cat I-III A Percentage of Annual NPS Accessions										
	1995	1996	1997	1998	1999	2000*	2001**	2002**	2003**	2004**
DoD	71	69	69	68	66	66	66	70	72	73
Army	69	67	68	68	63	65	65	70	73	72
Navy	66	66	66	64	65	64	63	65	66	70
Marine Corps	66	65	65	64	64	64	65	67	69	69
Air Force	84	83	79	78	76	73	75	76	81	82

HSDG Percentage of Annual NPS Accessions										
	1995	1996	1997	1998	1999	2000*	2001**	2002**	2003**	2004**
DoD	96	96	94	94	93	93	93	94	95	95
Army	96	95	90	90	90	91	91	91	92	92
Navy	95	95	95	95	90	90	90	92	94	96
Marine Corps	96	96	96	96	96	95	96	97	98	97
Air Force	99	99	99	99	99	99	99	99	99	99

\*\* Official Army HSDG performance excludes up to 4,000 participants in the GED+ pilot program. DoD HSDG figures also exclude up to 4,000 GED+ participants during these years.

Source: Official Recruiting Data Reported by the Services to OUSD (Personnel & Readiness/Military Personnel Policy/Accession Policy)

This slide shows that the Services have been achieving and, in most years, exceeding both DoD and their own accession standards over the last 10 years.

Nevertheless, given the current recruiting environment, analyzing the merits of Cat. IV accession increases is a valuable exercise.

## Two Data Sources



- **CNA Accession Cohort Files**
  - All USMC recruits from FY87 to FY05
  - AFQT scores and ASVAB composites are calculated using current ASVAB definitions
- **National Longitudinal Study of Youth 1997 (NLSY97)**
  - Nationally representative weighted sample of 18- to 23-year-olds who took the ASVAB in 1997
  - These data, collected for the Profile of American Youth 1997, were used to renorm the ASVAB

To analyze the merits of Cat. IV accession increases, we use two data sources. The first is CNA's accession cohort files, which allow us to track all USMC recruits from the yellow footprints through the 1<sup>st</sup> term. We use data from FY87 through FY05.

Since we intend to study the market for Cat. IVs, we also need population data. The NLSY97 provides a nationally representative weighted sample of youth who took the ASVAB in 1997. This sample, which was used to renorm the ASVAB, is the sample we use to analyze the national population of Cat. IVs.

## Subsamples for Analysis



When we say ...		We mean...
Top Cat. IVAs	↔	HSDGs with $25 \leq \text{AFQT} < 31$
Bottom Cat. IIIBs	↔	HSDGs with $31 \leq \text{AFQT} < 41$
HSDGs	↔	HSDGs in all mental groups
Adult Education/ 1 Semester College	↔	Recruits with these education credentials in all mental groups (these are Tier I recruits)

Here, we offer a note on terminology. To analyze the success of Cat. IV Marines, we concentrate on four groups.

Since the Marine Corps strives to access at least 95 percent Tier I, we concentrate mostly on HSDGs. Therefore, when we discuss Top Cat. IVs, and Bottom Cat. IIIBs, we are referring solely to those who have high school diplomas.<sup>2</sup>

Since research indicates that Adult Education/1 Semester College recruits have higher attrition rates (i.e., are less successful) than regular HSDGs, we analyze these Tier I recruits separately. Note that this is a group whose accession numbers are currently unconstrained, whereas Cat. IV accessions are currently capped.<sup>3</sup>

Since 60 percent of recruits must be Cat. I-IIIA (63 percent by MCRC's internal standards), it is probably not realistic to substitute a Cat. I-IIIA with a Cat. IV. Thus, we do not make this comparison. It may, however, be desirable to substitute a Bottom Cat. IIIB with a Top Cat. IVA, which is why we compare these two groups.

<sup>2</sup>Since the AFQT scores we use to place recruits in mental groups are calculated based on the current definition, there are recruits in our data who fall in the Cat. IVA category but are not HSDGs. We exclude these cases from our analysis.

<sup>3</sup>To clarify, Top Cat. IVs and Bottom Cat. IIIBs are subsets of HSDGs; however, HSDGs and Adult Education/1 Semester College are mutually exclusive groups that together make up Tier I.

# USMC Enlisted Accessions



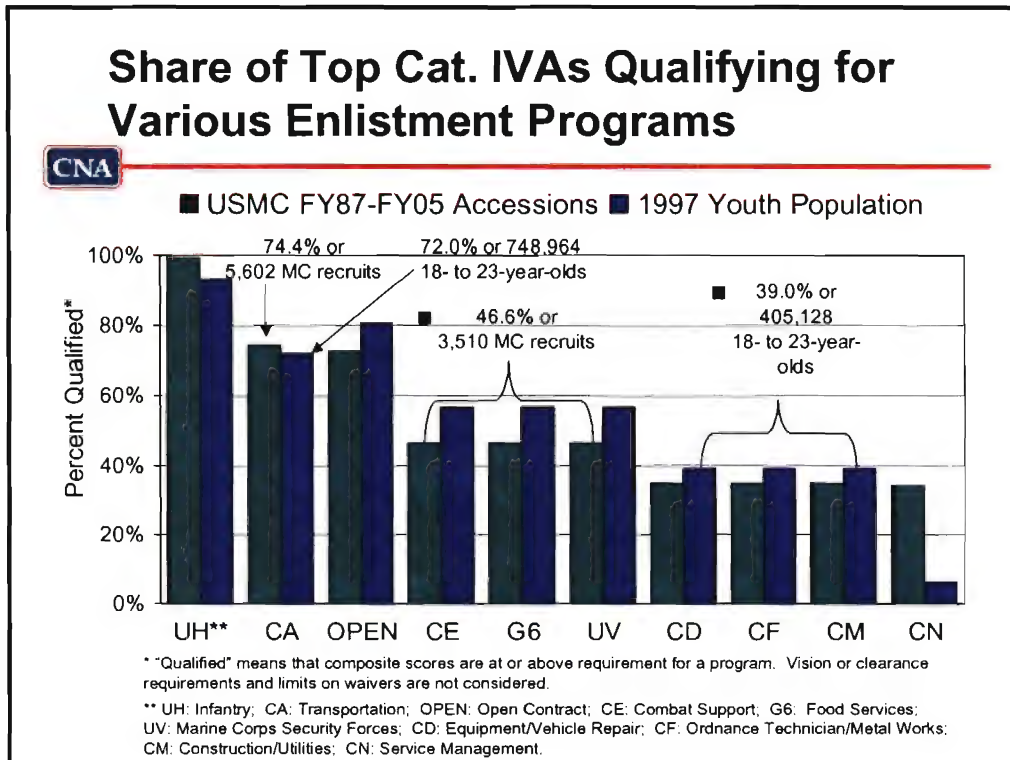
	FY87-FY05		FY00-FY05	
	Count	Percent	Count	Percent
Top Cat. IVA	7,538	1.2%	1,368	0.73%
Bottom Cat. IIIB	100,901	16.5%	31,290	16.7%
HSDG	573,690	93.7%	177,571	94.8%
Adult Education/ 1 Semester College	14,393	2.4%	4,211	2.2%

Source: Authors' tabulations from CNA accession cohort files.

Note: Mental group categories based on current ASVAB definitions. Using old ASVAB definitions for accessions before FY90 yields 2,597, or 0.4%, Top Cat. IVA and 104,133, or 17%, Bottom Cat. IIIB accessions in the FY87-FY05 period.

Let's first examine the relative size of the various groups. HSDG Cat. IVAs make up less than 1 percent of all USMC accessions from FY00 to FY05. HSDG Cat. IIIBs, the group to which Top Cat. IVAs are probably most similar, make up over 16 percent of USMC enlisted accessions.

This leads to the first research question: How big is the market of Top Cat. IVAs who qualify for Marine Corps enlistment programs?



This slide displays the percentage of qualified Marine Corps recruits and 18- to 23-year-olds for 10 enlistment programs. Qualified means that the recruit or youth scored at or above the required composite cut-score for a given enlistment program. For example, consider the CA (i.e., Transportation) enlistment program. Roughly 74 percent (about 5,600) of the Top Cat. IVA recruits who enlisted between FY87 and FY05 scored at or above 85 on the MM composite, the composite score required for the Transportation program.<sup>4</sup> Similarly, 72 percent (almost 750,000) of 18- to 23-year-old civilians scored at or above 85 on the MM composite in 1997.

This slide suggests that the market of Cat. IVAs who qualify for enlistment programs is large. In fact, at least 35 percent of Top Cat. IVAs in the youth population achieve the minimum composite score for 9 of 36, or 25 percent, of enlistment programs. That translates into almost 365,000 young people in the civilian population.

A substantial number of Top Cat. IVAs in the youth population are qualified for enlistment programs that currently are critical to the Marine Corps. On this slide, these include the UH (infantry) and UV (Marine Corps Security Forces) programs.

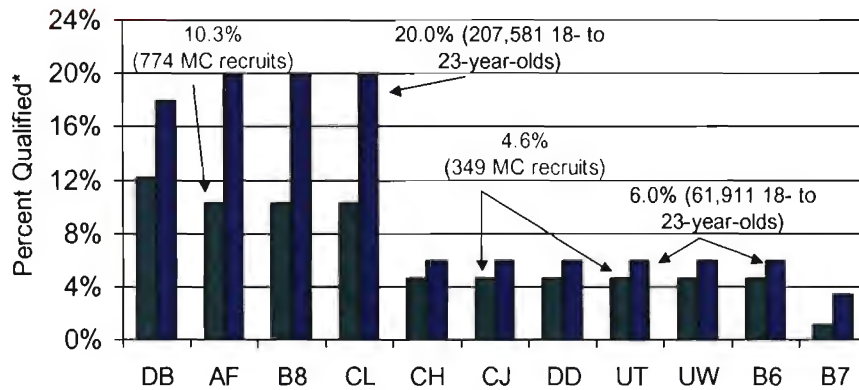
<sup>4</sup>The Mechanical Maintenance, Construction, Utility, and Chemical Maintenance (MM) Composite is the sum of several ASVAB subtests.



## Share of Top Cat. IVAs Qualifying for Various Enlistment Programs (cont.)



■ USMC FY87-FY05 Accessions ■ 1997 Youth Population



\* "Qualified" means that composite scores are at or above requirement for a program. Vision or clearance requirements and limits on waivers are not considered.

\*\* DB: Command and Control/Electrician; AF: Aviation Mechanic; B8: Mechanical Option; CL: Combat Vehicle Repair; CH: Media; CJ: Logistics; DD: Intelligence; UT: Military Police; UW: Marine Corps Security Forces (PRP); B6: Ground Option; B7: Electronic/ Data Option.

This slide shows an additional 11 enlistment programs for which Top Cat. IVAs qualify. Again, this slide suggests that the market of Cat. IVAs who qualify for enlistment programs is large. And, as before, a substantial number of Top Cat. IVAs in the youth population are qualified for several enlistment programs that currently are critical to the Marine Corps. On this slide, these include the AF (Aviation Mechanic), CJ (Logistics), DD (Intelligence), and UW (Marine Corps Security Forces (PRP)) programs.

There are other enlistment programs not shown on this slide or the previous one. The slides only display enlistment programs for which both USMC and youth populations had more than 1 percent qualified (21 out of 35, or 60 percent of enlistment programs).<sup>5</sup> One percent of the Cat. IV youth population, however, translates into almost 105,000 people.

Now we further scrutinize the individual composites required for each of these enlistment programs to see how the youth population compares with Top Cat. IVA recruits in the Marine Corps.

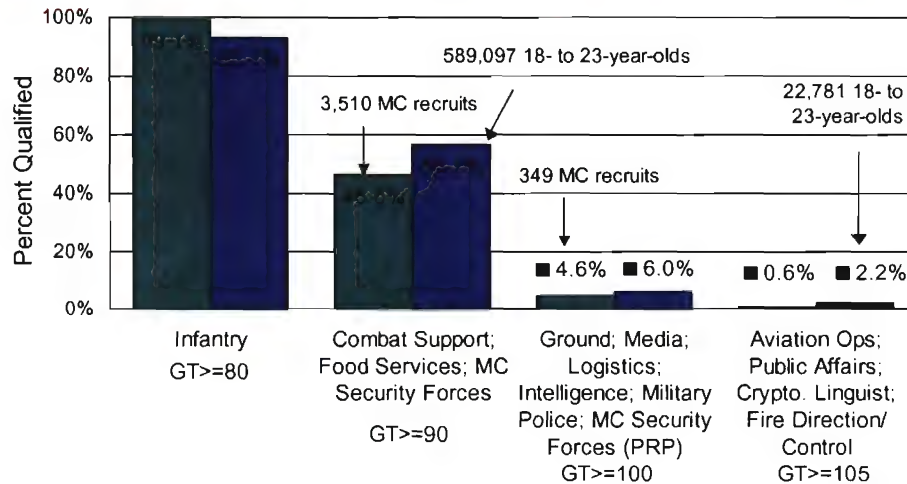
<sup>5</sup>Enlistment programs and qualification requirements are based on FY05 Enlistment Options.



## Share of Top Cat. IVAs Qualifying for Enlistment Programs Based on GT Composite\*



■ Top Cat. IVAs in USMC FY87-FY05 Accessions ■ Top Cat. IVAs in 1997 Youth Population



\*The General Technical, Special, and Officer Programs (GT) composite is the sum of several ASVAB subtests.

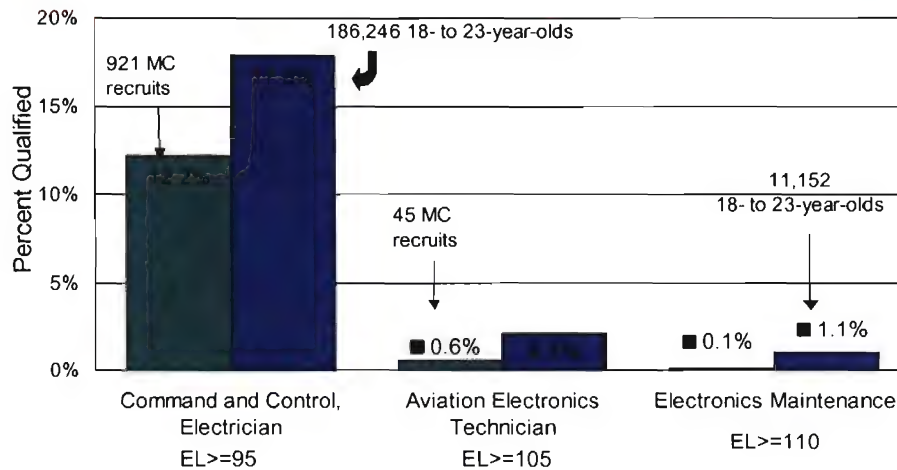
At all GT cut-scores but the lowest (Infantry), there was a greater share of Top Cat. IVAs in the 1997 youth population qualifying for the listed enlistment programs than there were Top Cat. IVA MC recruits qualified for those programs. This implies that the population would support more Top Cat. IVA accessions. In fact, the 6 percent of 18- to 23-year-olds scoring over 100 represent almost 62,000 youths from which to draw recruits.

This slide implies that the Marine Corps could recruit more Top Cat. IVAs, given that there are a large number of 18- to 23-year-olds with GT composite scores higher than those of Top Cat. IVA Marine Corps recruits who enlisted in the FY87–FY05 period.

## Share of Top Cat. IVAs Qualifying for Enlistment Programs Based on the EL Composite\*



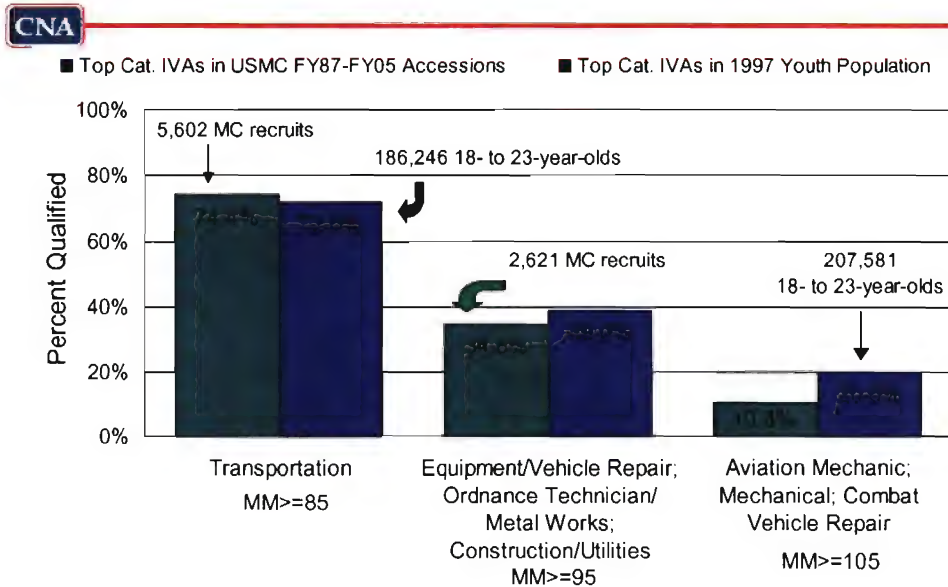
■ Top Cat. IVAs in USMC FY87-FY05 Accessions ■ Top Cat. IVAs in 1997 Youth Population



\* The Electronics Repair, Missile Repair, Electronics, and Communications (EL) composite is the sum of several ASVAB subtests.

There was a larger share of Top Cat. IVAs at all EL cut-scores in the 1997 youth population score qualified for the listed enlistment programs than there were Top Cat. IVA Marine Corps recruits qualified for those programs. Again, the implication is that the Marine Corps could recruit higher quality Top Cat. IVAs given the large number of 18- to 23-year-olds with higher EL composite scores.

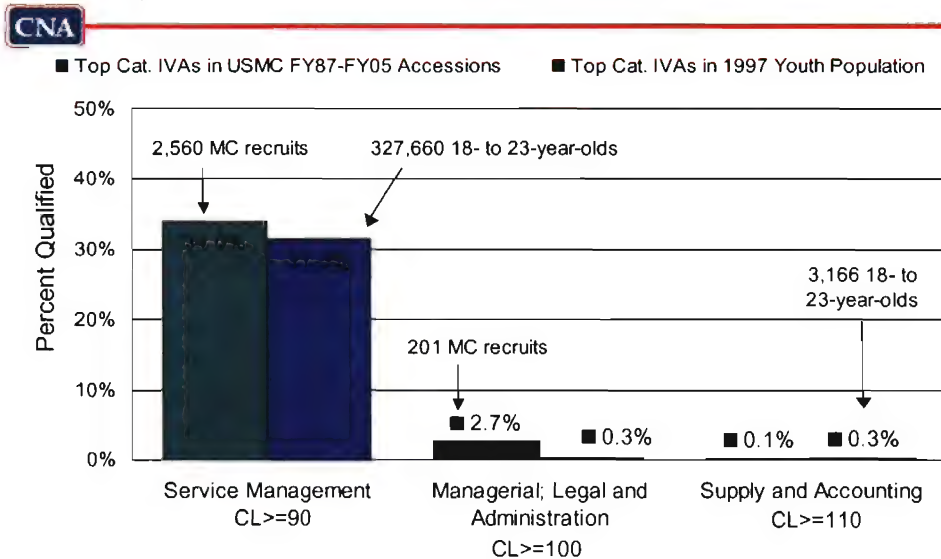
## Share of Top Cat. IVAs Qualifying for Enlistment Programs Based on the MM Composite



For all enlistment programs but Transportation, the population share of qualified Top Cat. IVAs is larger than the Marine Corps' recruit share. This implies that the population has an adequate number of higher quality, qualified Top Cat. IVAs (i.e., the Marine Corps is not already skimming the "cream of the crop").

The Marine Corps is a small buyer of labor in this market. Over the FY87–FY05 period, the Marine Corps recruited over 5,600 Top Cat. IVAs. However, there were over 186,000 similarly qualified individuals in the 1997 youth population.

## Share of Top Cat. IVAs Qualifying for Enlistment Programs Based on the CL Composite\*



\* The Chemical, Administrative, Supply, and Finance (CL) composite is the sum of several ASVAB subtests.

Unlike the other three composite score slides, this slide implies that the Marine Corps is already recruiting the highest quality Top Cat. IVAs based on the CL composite. Still, many more qualified recruits remain in the youth population.

## Summary of ASVAB Composite Cut-Score Analysis



- Market of Top Cat. IVAs who qualify for enlistment programs is large
- Composite scores may serve as additional indicators of top-quality Cat. IVA potential recruits

There are 13 cut-scores associated with enlistment programs across the four composites. In 9 of the 13, the youth population has a higher percentage of qualified Top Cat. IVs than the share the Marine Corps recruited. This implies that the market for Top Cat. IVAs that qualify for enlistment programs is quite large and that recruiters may be able to use composite scores to “cherry-pick” additional Cat. IVAs from the population.

Recall that these are all HSDGs, so these accessions also would help reach the 97-percent Tier I goal.

Now, we compare the Marine Corps Top Cat. IVA population with the 1997 18- to 23-year-old population.

## Demographics of Top Cat. IVAs

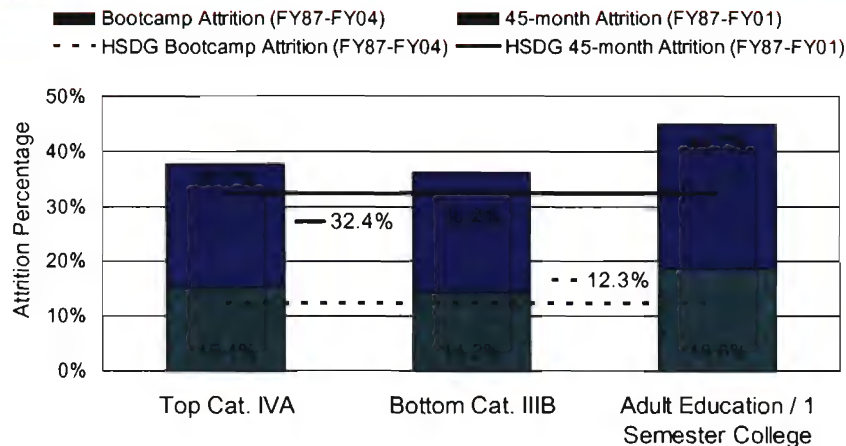


- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• USMC FY87-FY05 Top Cat. IVA Accessions<ul style="list-style-type: none"><li>– Gender<ul style="list-style-type: none"><li>• Male: 98.6%</li><li>• Female: 1.4%</li></ul></li><li>– Race/Ethnicity<ul style="list-style-type: none"><li>• White : 51.3%</li><li>• Black: 32.4%</li><li>• Hispanic: 11.6%</li><li>• Other: 4.6%</li></ul></li></ul></li></ul> | <ul style="list-style-type: none"><li>• 1997 Youth Population Top Cat. IVA<ul style="list-style-type: none"><li>– Gender<ul style="list-style-type: none"><li>• Male: 49.3%</li><li>• Female: 50.7%</li></ul></li><li>– Race/Ethnicity<ul style="list-style-type: none"><li>• White : 55.5%</li><li>• Black: 20.4%</li><li>• Hispanic: 17.7%</li><li>• Other: 6.4%</li></ul></li></ul></li></ul> |
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The Marine Corps' Top Cat. IVA accessions consisted of a greater share of men and blacks and a smaller share of whites and Hispanics than the 1997 youth population.

Now let's address the main research question—how successful are Cat. IV Marines? In this study, "success" is defined as not attriting from bootcamp. We also do some comparisons through 45 months (an approximation of the first term).

## Top Cat. IVAs & Bottom Cat. IIIBs Have Similar Attrition Rates



Note: Tabulations from CNA accession cohort files. Bootcamp attrition is defined as a loss from either MCRD Parris Island or MCRD San Diego in the first 12 months of service. 45-month attrition is defined as any loss before 45 months of service.

Top Cat. IVA attrition is only slightly higher than Bottom Cat. IIIB attrition for both bootcamp and the 45-month mark.<sup>6</sup> Top Cat. IVAs have lower attrition than the Adult Education/1 Semester College recruits (a Tier I group that is currently unconstrained, unlike the Cat. IV group).

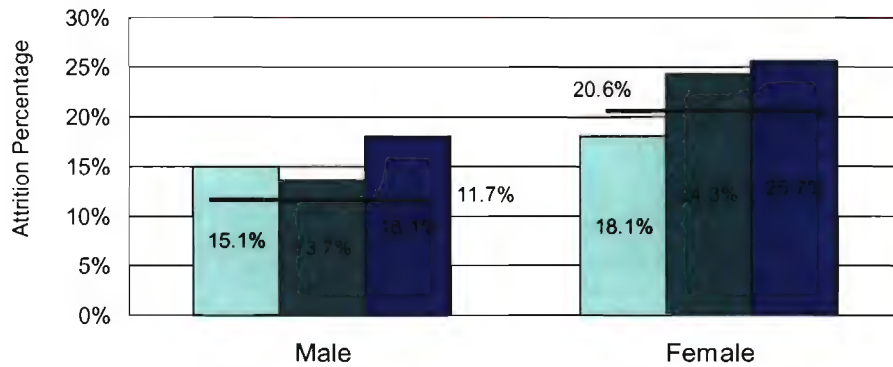
There is roughly a 1-percent difference in bootcamp attrition rates of Top Cat. IVAs and Bottom Cat. IIIBs. Next, we analyze bootcamp attrition by some variables that have been found to explain such differences.

<sup>6</sup>Preliminary regression results show that these differences are not statistically significant after controlling for personal characteristics. (See the appendix.)

## Bootcamp Attrition by Gender, FY87-FY04



Top Cat. IVA Bottom Cat. IIIB Adult Education/ 1 Semester College HSDGs



Note: Tabulations from CNA accession cohort files. Bootcamp attrition is defined as a loss from either MCRD Parris Island or MCRD San Diego in the first 12 months of service.

It is well known that female bootcamp attrition exceeds male attrition. As expected, we find that men have much lower attrition rates across all our groups of interest. However, Top Cat. IVA women have lower attrition than all other female groups. These numbers should be interpreted with caution since the number of women is small—only 102 over the sample.



## Bootcamp Attrition by Race/Ethnicity, FY87-FY04



Sample	White	Black	Hispanic	Other
Top Cat. IVAs	18.1%	12.6%	11.1%	9.9%
Bottom Cat. IIIBs	16.2%	13.2%	9.3%	12.0%
HSDGs	13.0%	12.3%	8.5%	10.3%
Adult Education/ 1 Semester College	20.3%	17.1%	13.5%	14.5%

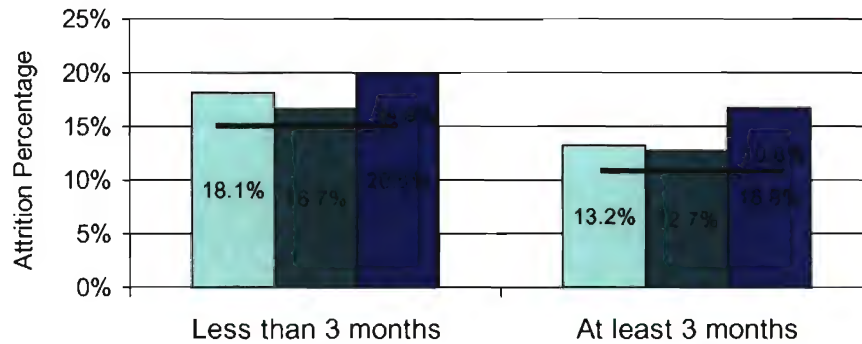
Note: Tabulations from CNA accession cohort files. Bootcamp attrition is defined as a loss from either MCRD Parris Island or MCRD San Diego in the first 12 months of service.

Racial/ethnic group often explains a large part of the difference in bootcamp attrition rates. Minorities have lower attrition across all samples. Top Cat. IVA blacks have lower attrition than Bottom Cat. IIIBs and Adult Education/ 1 Semester College recruits, and they do almost as well as the entire group of HSDGs. Recruiting more Top Cat. IVA minorities also would present an opportunity to increase force diversity.

## Bootcamp Attrition by Months in DEP (FY87-FY04)



Top Cat. IVA Bottom Cat. IIIB Adult Education/1 Semester College HSDGs



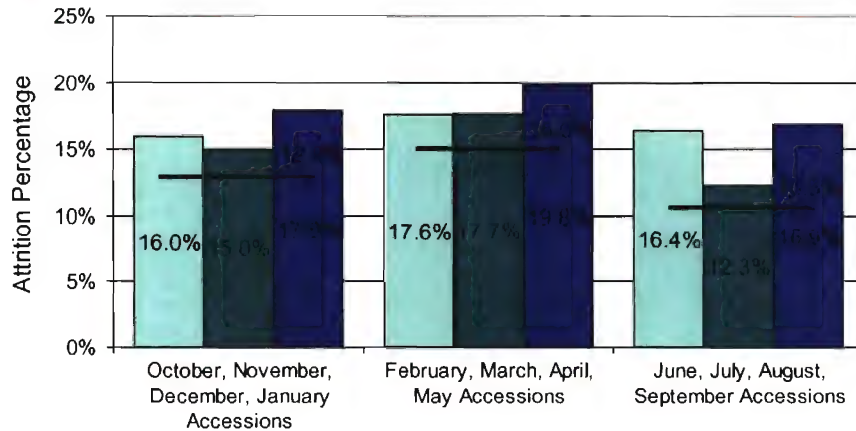
Note: Tabulations from CNA accession cohort files. Bootcamp attrition is defined as a loss from either MCRD Parris Island or MCRD San Diego in the first 12 months of service.

Next, we consider the time that recruits spend in the Delayed Entry Program (DEP). Time in DEP is critical to all groups. Again, Top Cat. IVAs perform better than the Adult Education/1 Semester College Recruits. Top Cat. IVAs and Bottom Cat. IIIBs are fairly similar. We see, however, that Top Cat. IVAs with 3 or more DEP months perform better than those from other groups with less than 3 DEP months.

## Bootcamp Attrition by Shipping Season (FY92-FY04)



Top Cat. IVA Bottom Cat. IIIB Adult Education/1 Semester College HSDGs



Note: Tabulations from CNA accession cohort files. Bootcamp attrition is defined as a loss from either MCRD Parris Island or MCRD San Diego in the first 12 months of service. Accession season data were not available before FY92.

Looking at bootcamp attrition by shipping season, Top Cat. IVAs again perform better than the Adult Education/1 Semester College Recruits. Cat. IVAs and Cat. IIIBs are very similar except for summer shippers.

This slide and the previous one together suggest that Cat. IVAs should be recruited in the spring and summer months to give them at least 3 DEP months before accessing in October through January (ONDJ).

## Conclusions



- There is a large market of Top Cat. IVAs in youth population
- Top Cat. IVAs have similar attrition rates to Bottom Cat. IIIBs
- Top Cat. IVAs with 3 or more months in DEP have lower attrition rates than direct ships in other three groups
- Top Cat. IVA Marines have lower attrition than Tier I Adult Education/1 Semester College Marines across the board

To summarize, there are more than enough qualified Cat. IVAs in the youth population to support an increase in the cap and to choose those Top Cat. IVAs who have scored higher on ASVAB composites than Top Cat. IVA Marines accessed during the FY87–FY05 period. Allowing more Top Cat. IVAs to enlist for programs that are particularly critical to the Marine Corps at this time could be a starting point.

Across the board, Top Cat. IVA attrition rates are similar to Bottom Cat. IIIBs. In fact, in preliminary regressions, controlling for gender, race/ethnicity, time in DEP, accession season, and FY (among other factors), the difference in attrition rates for these two groups is insignificant.

We find that DEP is crucial to all recruits, but Top Cat. IVs with 3 or more DEP months are as successful as those in other groups with less than 3 DEP months.

Finally, Top Cat. IVAs have lower attrition rates than the Tier I Adult Education/ 1 Semester College group.

# Appendix



# Regression Results



Independent Variables	Bootcamp Attrition (FY92-FY04)	45-Month Attrition (FY92-FY01)
Top Cat. IVA	0.003	0.005
Male	-0.100 **	-0.084 **
Black	-0.015 **	-0.040 **
Hispanic	-0.042 **	-0.128 **
Other	-0.024 **	-0.063 **
Age	0.037 **	0.002
Age squared	-0.001 **	0.000
Single	-0.009	-0.008
MCRD Parris Island	-0.003	0.016 **
Met the retention weight-for-height standard	0.029 **	0.058 **
ONDJ accession	-0.006 **	0.014 **
FMAM accession	0.012 **	0.023 **
Participated in DEP	-0.003	-0.015 **
Spent 3 or more months in DEP	-0.012 **	-0.058 **

Note: This table shows marginal effects from logit regressions for bootcamp and 45-month attrition. The marginal effects are relative to the omitted categories (white recruits and JJAS accessions). The regressions include only Top Cat. IVAs and Bottom Cat. IIIBs. The regressions are limited to accessions after FY92 because accession season data was not available before FY92. The regressions also included fixed fiscal year effects. \*\* indicates significance at the 5% level.

This slide shows the results from standard logit regressions of bootcamp and 45-month attrition. The regressions include indicators for mental group, gender, race, marital status, participation in the DEP, age, age squared, whether the recruit met the retention weight-for-height standard, accession season, and fiscal year.

The table shows that, controlling for personal characteristics and FY, there is not a statistically significant difference in attrition rates between Top Cat. IVAs and Bottom Cat. IIIBs.

